

Collected Posters from the Nectar Annual General Meeting

Greenberg, S., Brush, A.J., Carpendale, S., Diaz-Marion, R., Elliot, K., Gutwin, C., McEwan, G., Neustaedter, C., Nunes, M., Smale, S. and Tee, K. (2007)

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This report collects eight posters produced by students and associates of the Grouplab Research Group (Dept. Computer Science, University of Calgary) for the NSERC Nectar Annual General Meeting, held after the ACM CSCW Conference in November, 2006, Banff.

1. Diaz-Marino, R. and Greenberg, S.
Cambience: Constructing a Sonic Ecology for Media Spaces
2. Elliot, K., Neustaedter, C. and Greenberg, S.
The Value of Contextual Locations in the Home
3. Marquardt, N. and Greenberg, S.
Shared Phidgets: A developer's toolkit for rapid prototyping of distributed tangible user interfaces
4. McEwan, G. and Greenberg, S.
Community Bar
5. Neustaedter, C., Brush, A.J. and Greenberg, S.
LINC: A Digital Family Calendar
6. Nunes, M., Greenberg, S. Carpendale, S. and Gutwin, C.
Timeline: Video Traces for Awareness
7. Smale, S. and Greenberg, S.
Transient Life: Collecting and Sharing Personal Information
8. Tee, K., Greenberg, S. and Gutwin, C.
Screen Sharing with Community Bar



Constructing a Sonic Ecology for Media Spaces

Local Camera
Captures a Nearby Scene



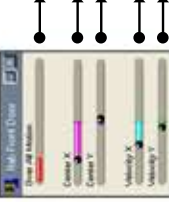
Monitoring Regions
Drawn over Camera Image



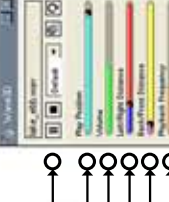
Change Detection
Performed on Camera Scene



Visual Programming
Using Input from Regions



Audio Properties
Mapped from Visual Input



Local Speakers
Output a Sonic Ecology



Multiple Instances of Cambience

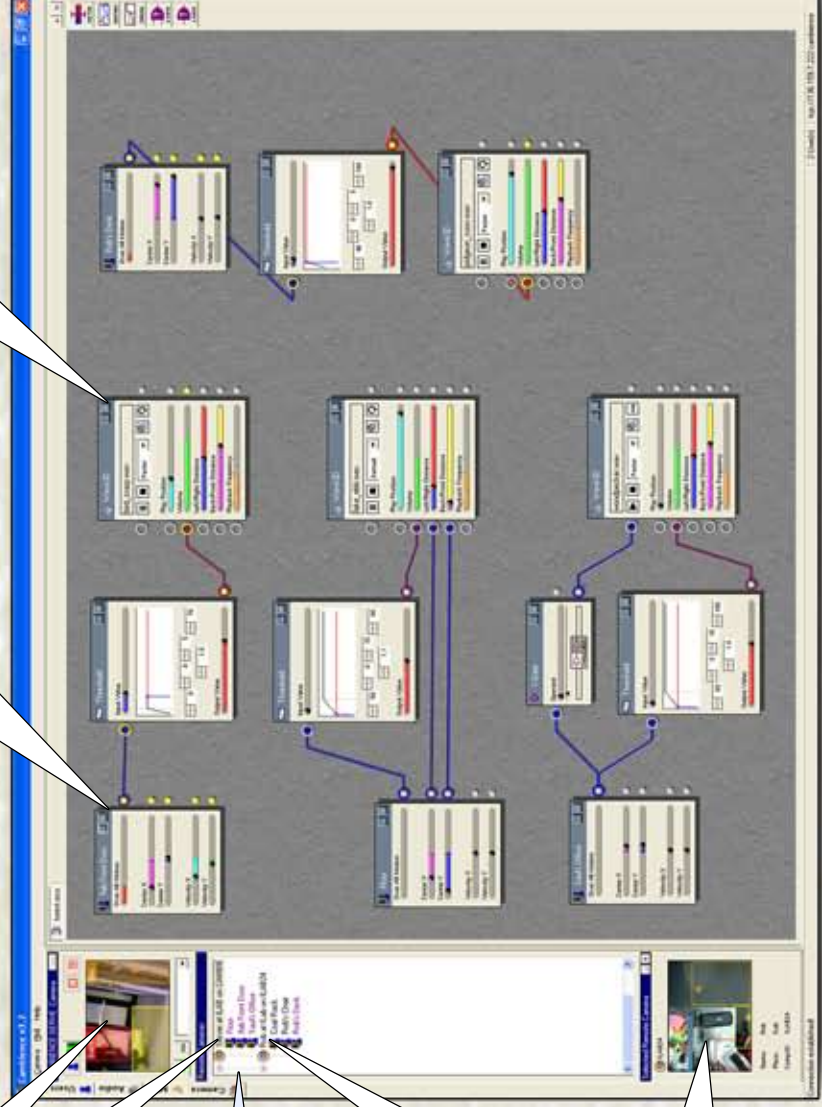
Multiple instances of Cambience can be connected to share their regions.

The *Region Pool* shows all local and remote regions that can be used in the Visual Programming Environment.

Remote Cameras
Capture Remote Scenes



Remote Regions
Broadcast Change Measurements



A Sonic Ecology is produced by mixing sounds together. The change measurements from regions can be used to affect the playback and properties of the sounds. Alterations in the sound gives an awareness of visual change.



Download Cambience and the Cambience SFX Library at <http://groupulab.cpsc.ucalgary.ca/cookbook>

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The Value of Contextual Locations in the Home

Kathryn Elliot, Carman Neustaedter & Saul Greenberg, University of Calgary
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Every home has a set of locations that people use for information management. In fact, the location of a message provides household members with contextual information about it. This meta-data includes **time**, **ownership** and **awareness** information. These **Contextual Locations** establish their meaning over time through knowledge of routines, household traffic patterns and their proximity to technology.

Contextual Locations allow information to be seen at the right **time**, whether it is urgent, important right now, old, new or stored. Locations also help people establish **ownership** over information, to know whether it is public, personal or private. This ownership may vary over time with the usage of space. It also implies responsibility for any actions to be taken on that message. Finally, locations help household members maintain **awareness** of each others' presence and activities, and even help them subtly monitor each other, ensuring that the household functions smoothly.



Public Spaces



Responsibility



Urgency



Dynamics



Public Subset Spaces



Owner Variation



Relevance



Personal Spaces



Visibility + Privacy



Monitoring



Private Spaces



Presence



Visit <http://grouplab.cpsc.ucalgary.ca>

Space in the home is interwoven with time, ownership and awareness

Shared Phidgets

A developers' toolkit for rapid prototyping of distributed tangible user interfaces.

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1 Introduction: What are Phidgets?

Phidgets are hardware building blocks to create tangible interfaces:



Interface Kit + Sensors

... provide buttons/sliders for interaction



Servo Motor

... move objects



RFID Reader

... identify objects



Text Display

... display messages

They can for example ...

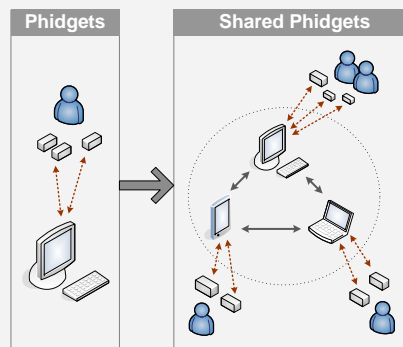
2 Motivation: Why do we need this toolkit?

The objective:

Build interactive systems that involve multiple locations and various input/output devices

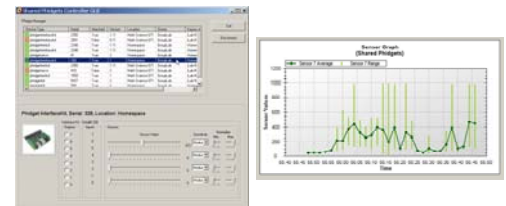
The problems:

- Access to hardware very difficult
- Network programming is a pain
- Synchronizing software and hardware
- Often difficult to get overview of devices



5 Tools

Device Explorer: See all connected devices, control them, and simulate devices



Sensor Maps: Visualization of all devices and sensors around you



3 Solution: What does Shared Phidgets provide?

Easy to use API

Manages all networking aspects

Custom 'abstract devices'

Graphical 'skins'

Observer and control tools

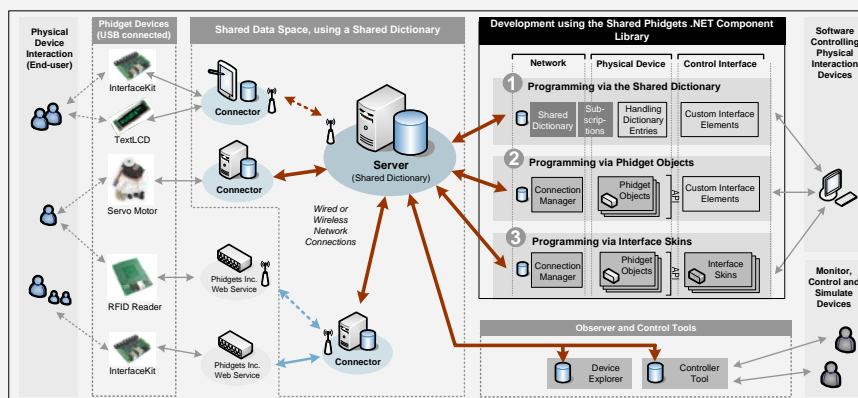
Metadata

Many different sensors and actuators

Mobile Explorer: Use your TabletPC to explore embedded devices in the environment



4 Implementation: How does it work?



6 Summary

"The Shared Phidgets toolkit makes it very easy to develop distributed physical and tangible user interfaces."

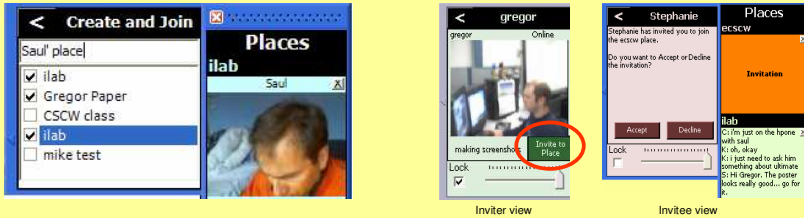
Download and Tutorials:
<http://grouplab.cpsc.ucalgary.ca/cookbook>

Community Bar

Gregor McEwan and Saul Greenberg

Peripheral display of **awareness** information with quick and easy transition to **interaction**.

Ad hoc Groups



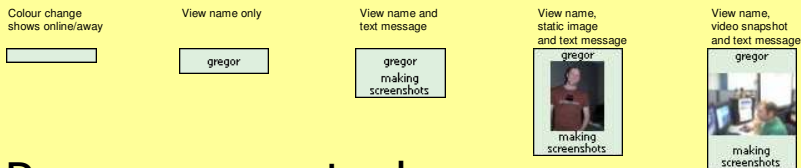
Create new groups using a single text entry.

Join and Leave groups using the checkboxes

Invite other people to your new group

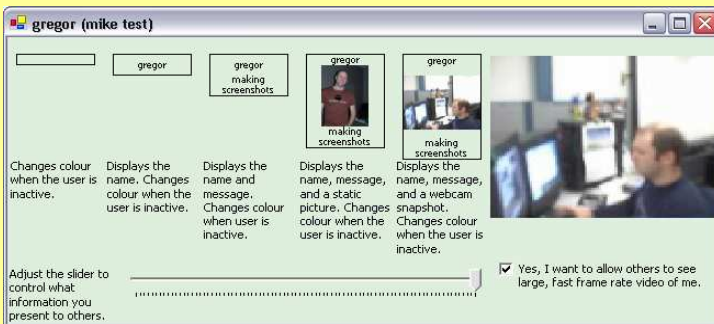
Focus control

Each person can control how they view items within the Community Bar

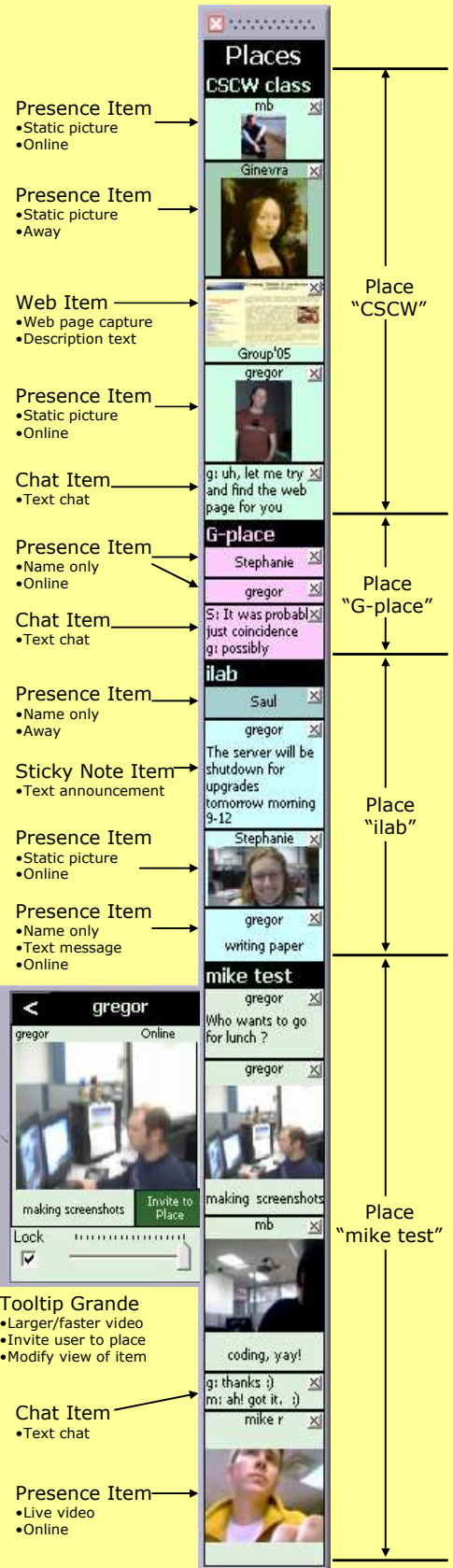
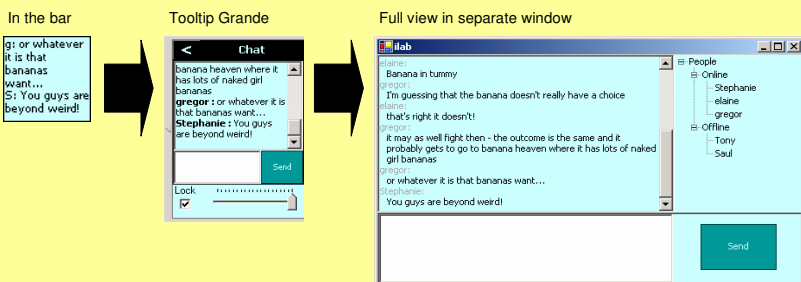


Presence control

Each person can control how others can view them within each Place



Lightweight transition from awareness to interaction

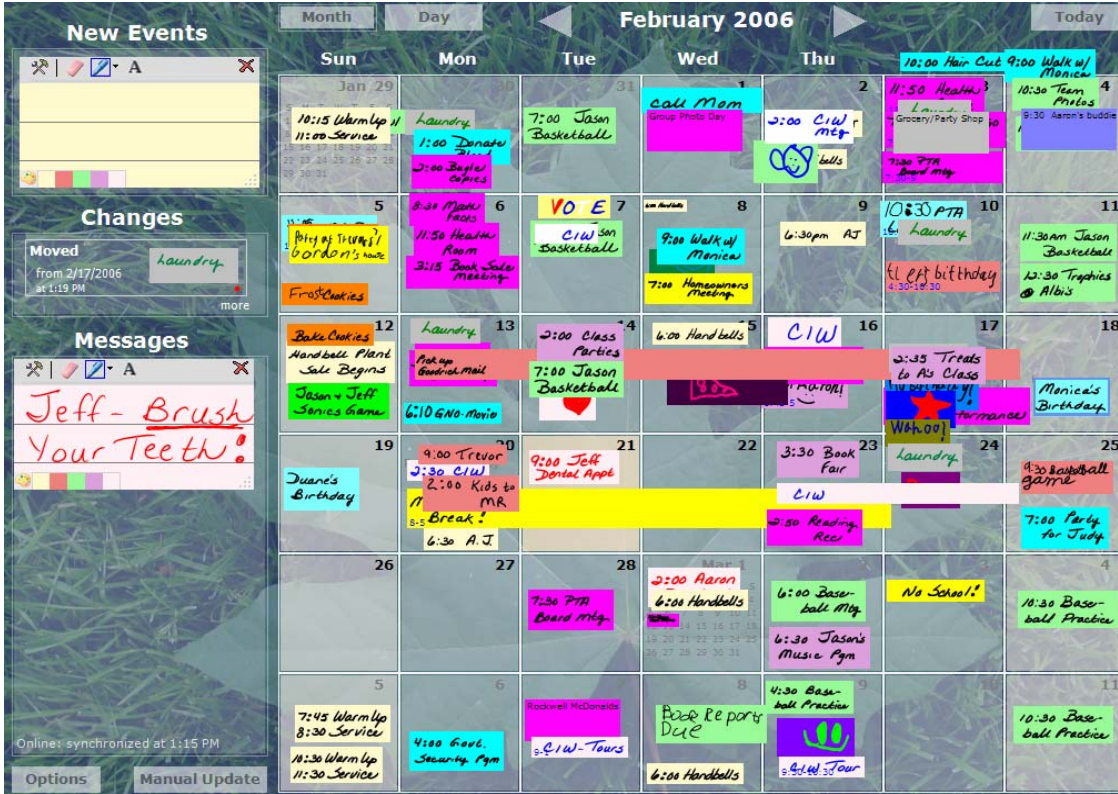


LINC: A Digital Family Calendar

Carman Neustaedter¹, A.J. Brush², and Saul Greenberg¹

1: University of Calgary, Canada, and 2: Microsoft Research, USA
 carman@cpsc.ucalgary.ca, ajbrush@microsoft.com, saul.greenberg@ucalgary.ca

A digital calendar that is as easy to use as a paper calendar and available where families need it: home, work, or on the go.



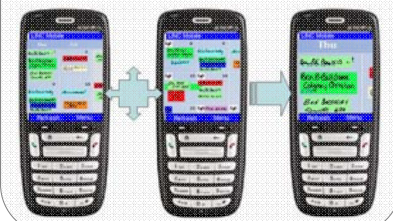
Shared by Family



Always-on and Inkable



Mobile Access



Work Access



Design: LINC was designed using a participatory design process involving twenty primary schedulers. Design stages included: low-fidelity paper prototype design sessions, the design of a medium-fidelity digital prototype, and a formative evaluation. Findings guided the design of a high-fidelity prototype of LINC.

Evaluation: Four families were given LINC running on a slate tablet for our month long field study. All adopted LINC and used it extensively as their primary family calendar. They valued the portability of the tablet, the ability to access their calendar from multiple locations, and the ease in which they could personalize their calendar with ink and color.



